

IN THE CLAIMS

The following listing of claims replaces any earlier listing:

1. (Withdrawn) A process for cleaning soiled garments or fabric materials comprising the steps of:

A) placing said soiled garments or fabric materials into a sealable and pressurized device;

B) introducing into the device a cleaning agent comprising CO₂, which comprises a fragrance, wherein said fragrance system comprises fragrance ingredients that are determined to be substantive to garments according to the following mathematical equation:

$$y=a_0+\sum a_n x_n$$

wherein y is defined as the predicted relative fabric value affinity of an aroma chemical having a range of from about 1-7, with 7 being the most substantive;

wherein X_{1-n} are defined as molecular descriptors derived out of COSMO RS calculations; n is defined as number of descriptors used in the said equation, wherein a_{0-n} are defined as coefficients derived from linear regression analysis; and

wherein at least 60% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4; and

C) contacting said soiled garments or fabric materials with said cleaning agent to remove undesired stains or soils and to deposit a substantive long lasting fragrance system on said garment or fabric materials; and

wherein said CO₂ is liquid CO₂ or supercritical CO₂.

2. (Withdrawn) The process according to Claim 1, wherein said CO_2 is liquid CO_2 .

3. (Withdrawn) The process according to Claim 1, wherein said CO_2 is supercritical CO_2 .

4. (Cancelled)

5. (Withdrawn) The process according to Claim 1, wherein $a_0=0.2771$, $a_1=-0.0042$, $a_2=-0.0094$, $a_3=0.0061$, $a_4=-0.2738$ and $a_5=-0.0377$; and $x_1=\sigma$ -moment M_2 , $x_2=\sigma$ -moment M_3 , $x_3=\sigma$ -moment M_4 , $x_4=f_{\text{don}}$, and $x_5=\Delta G_{\text{Cosmo}}$; and $n=5$.

6. (Cancelled)

7. (Withdrawn) The process according to Claim 1, wherein at least 75% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4.

8. (Withdrawn) The process according to Claim 7, wherein at least 85% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4.

9. (Withdrawn) The process according to Claim 1, wherein at least 50% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.

10. (Withdrawn) The process according to Claim 9, wherein at least 60% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.

11. (Withdrawn) The process according to Claim 10, wherein at least 70% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.

12. (Withdrawn) The process according to Claim 1, wherein said fragrance system comprises additional additives selected from the group consisting of anti-microbial ingredients, UV filters, anti-static ingredients, optical brighteners, cooling agents, and warming agents.

13. (Previously presented) A liquid CO₂ cleaning system comprising liquid CO₂ and a fragrance system, wherein said fragrance system comprises fragrance ingredients that are determined to be substantive to garments according to the following mathematical equation:

$$y=a_0+\sum a_n x_n$$

wherein y is defined as the predicted relative substantivity of an aroma chemical ~~on~~ having a range of from about 1-7 with 7 being the most substantive;

wherein x_{1-n} are defined as molecular descriptors derived out of COSMO RS calculations; wherein n is defined as number of descriptors used in the said equation,

wherein a_{0-n} are defined as coefficients derived from linear regression analysis;

wherein at least 60% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4.

14. (Previously presented) The cleaning system according to

Claim 13, wherein $a_0=0.2771$, $a_1=-0.0042$, $a_2=-0.0094$, $a_3=0.0061$, $a_4=-0.2738$ and $a_5=-0.0377$; and $x_1=\sigma$ -moment M_2 , $x_2=\sigma$ -moment M_3 , $x_3=\sigma$ -moment M_4 , $x_4=f_{\text{don}}$, and $x_5=\Delta G_{\text{Cosmo}}$; and $n=5$.

15. (Cancelled)
16. (Previously presented) The cleaning system according to Claim 13, wherein at least 75% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4.
17. (Previously presented) The cleaning system according to Claim 16, wherein at least 85% of said fragrance ingredients have a relative fabric affinity value (y) of at least 4.
18. (Previously presented) The cleaning system according to Claim 13, wherein at least 50% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.
19. (Previously presented) The cleaning system according to Claim 18, wherein at least 60% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.
20. (Previously presented) The cleaning system according to Claim 19, wherein at least 70% of said fragrance ingredients have a relative fabric affinity value (y) of at least 6.

21. (Previously presented) The cleaning system according to Claim 13, wherein said fragrance system comprises additional additives selected from the group consisting of anti-microbial ingredients, UV filters, anti-static ingredients, optical brighteners, cooling agents, and warming agents.